

Claims

1. Method for the removal of particulate matter from aqueous suspension comprising steps of
 establishing value of pH and of Zeta potential of particles in the suspension;
 providing a porous ceramic filter having a membrane layer consisting of at least a metal-oxide with a Zeta potential at the pH value of the suspension having same polarity of the Zeta potential as the particles in the suspension;
 passing the suspension through the porous filter; and
 withdrawing a filtrate.
2. Method according to claim 1, wherein the metal-oxide is selected according to the following Table:

pH of the aqueous suspension	Zeta potential of particles with positive polarity	Zeta potential of particles with negative polarity
3-4	TiO ₂ (anatase)	TiO ₂ (rutile), WO ₃
4-5	TiO ₂ (anatase), ZrO ₂ , Al ₂ O ₃	TiO ₂ (rutile), WO ₃ , SiO ₂
5-6	ZrO ₂ , Al ₂ O ₃ , MgAl ₂ O ₄	TiO ₂ (rutile), WO ₃
6-7	ZrO ₂ , Al ₂ O ₃ , MgAl ₂ O ₄	TiO ₂ (anatase)
7-8	ZrO ₂ , MgAl ₂ O ₄	TiO ₂ (anatase)
8-9	MgAl ₂ O ₄	
9-10	MgAl ₂ O ₄ (400°C)	

3. Method according to claim 1, wherein the suspension is passed in cross-flow through the filter.
4. Method according to claim 1, wherein the particles comprise yeast cells.

5. Method according to claim 1, wherein the suspension is selected from beer and wine.

6. System for cross-flow microfiltration of an aqueous suspension of particles to be retained comprising
a porous ceramic filter having a membrane layer consisting of a least one metal-oxide, a pump for pumping the aqueous suspension through the porous ceramic filter, wherein Zeta potential of the membrane layer has the same sign of polarity as the particles to be retained at pH value of the aqueous suspension during filtration.

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